

Digital Sparks: Strand and Unit Overview

This resource has been designed to support the effective implementation of Digital Sparks.

Strand Overview

The Strand Overview provides descriptions of each Digital Sparks stand, including their intended purpose, number of units and coverage of each key stage.

Unit Overview

The Unit Overview provides helpful information about each unit within each strand. This includes:

- **Duration:** The number of steps within the unit and an approximate total time for delivering the unit. Some units include steps which require additional time due to the nature of the learning tasks.
- **Tech Toolbox:** A list of the digital equipment needed for the unit.
- **Big Question/Big Project:** The intended focus question or project that the unit works towards.
- **Unit Summary:** A short summary of the knowledge and skills taught throughout the unit.

The [Digital Sparks Curriculum Map](#) provides suggested sequences to help educators deliver each unit to ensure curriculum coverage and progression.

Online Safety: Cyber Smart

Online safety is a thread that runs throughout every part of Digital Sparks. Each step starts with a short online safety starter, helping children to regularly revisit and build their understanding. These Cyber Smart discussion starters are aligned with the [Education for a Connected World framework](#), so they are up-to-date and age-appropriate. The only strand that doesn't begin with a Cyber Smart starter is the Digital Citizenship strand, a dedicated online safety strand, giving children explicit opportunities to explore their responsibilities online. Instead, it includes Digital Dilemma Discussion Starters which are linked to the key learning within each step. Each unit includes a Smart Sparks Guide so children can share the key online safety messages with their parents and carers.

Digital Evidence Portfolio

The Digital Evidence Portfolio is a way of tracking children's progress towards the learning objectives and milestone concepts for each unit. It allows children and educators to record, evidence and reflect on the key learning of each step of their Digital Sparks journey.

Digital Sparks CPD

The CPD in 3 Videos and Quick Guides are designed to support educators with the key skills, knowledge and possible misconceptions that may occur in each step. They are clear and concise to ensure time is saved and educators feel ready to teach the unit. The CPD resources can be accessed via the Twinkl website, individual Unit Overviews, Step Packs and Unit Packs.

Digital Foundations			Computer Systems and Networks			Digital Citizenship			Programming		
Digital Foundations is designed to give children the essential computing foundational knowledge and skills required on their primary computing journey. This strand helps children develop and consolidate their understanding of technology and digital devices, operating systems, mouse and keyboard skills, icons and symbols and creating digital artefacts.			Computer Systems and Networks is designed to help children understand what technology is, how it works and how it connects us. Throughout this strand, children explore what technology is and its uses, how devices, computer systems and networks connect and operate and how information is shared and stored. The strand also explores the benefits and risks of online systems and safe, responsible technology use, building a strong foundation for understanding the digital world around them.			Digital Citizenship is designed to support children in using technology safely and navigating the digital world responsibly. This strand develops children's understanding of appropriate online behaviour, digital footprints and the benefits and risks of online activities, content and communities. Critical thinking skills are developed as children learn to evaluate and question the reliability of online content.			Programming is designed to introduce children to the key concepts of coding and computational thinking. Throughout this strand, children develop an understanding of algorithms, progressing from unplugged activities to block-based coding. Key coding concepts, such as sequencing, repetition, selection and variables are introduced, while developing problem-solving skills, building a solid foundation for future programming.		
KS1	LKS2	UKS2	KS1	LKS2	UKS2	KS1	LKS2	UKS2	KS1	LKS2	UKS2
2 Units	2 Units	2 Units	2 Units	2 Units	2 Units	2 Units	2 Units	2 Units	2 Units	1 Unit	1 Unit

Physical Computing			Creating Media			Data and Information			Artificial Intelligence		
Physical Computing is designed to introduce children to programming through the use of physical devices. Throughout this strand, children create and test algorithms and programs, deepening their understanding of key coding concepts and their application in the physical world.			Creating Media is designed to develop children's digital artefacts creation skills. This strand teaches children how to create digital art, format text and images, create simple animations, record and edit audio and video content and create interactive presentations. Children consider the purpose and audience of the content they create and how this relates to design choices, ethical considerations and online safety.			Data and Information is designed to provide children with the foundational knowledge and skills for gathering and understanding data. This strand teaches children to collect, organise and represent data in order to interpret, analyse and present the information to answer questions and solve problems.			Artificial Intelligence is designed to introduce children to how AI technologies work. This strand develops children's awareness and understanding of what machines and AI systems are, how generative AI models use pattern recognition to generate decisions and the fairness of how data is sourced and used. Children apply their critical thinking skills to evaluate the ethical concerns around how AI systems are designed and how they might impact society in the future.		
KS1	LKS2	UKS2	KS1	LKS2	UKS2	KS1	LKS2	UKS2	KS1	LKS2	UKS2
1 Unit	1 Unit	1 Unit	2 Units	2 Units	2 Units	1 Unit	1 Unit	1 Unit	1 Unit	1 Unit	1 Unit

Digital Foundations					
KS1		LKS2		UKS2	
Digital Foundations 1 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - access to a range of technology and digital devices for children to explore - digital devices with a mouse or trackpad for children to use - access to a digital art program, such as Microsoft Paint or PaintZ Unit Summary: In Digital Foundations 1, children will: identify a range of technology found in the home and school; explore the common parts of digital devices; learn how to use a computer mouse or trackpad to control the cursor; learn how to use some of the keys on a computer keyboard; recognise and use common icons found on digital devices; navigate a simple operating system; create digital work using a digital art program; explore online safety concepts, such as personal information, asking a trusted adult for permission, safe passwords, content ownership and digital citizenship.	Digital Foundations 2 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - access to a range of technology and digital devices for children to explore - digital devices with a mouse or trackpad for children to use - access to a digital art program, such as Microsoft Paint or PaintZ Unit Summary: In Digital Foundations 2, children will: identify a range of technology used in the wider world; learn about health and safety requirements related to digital devices; name and know the function of common parts of digital devices; learn how to use a computer mouse or trackpad, including functions of the left and right buttons; learn to recognise the main keys on a computer keyboard; recognise and use common icons found on digital devices; navigate a simple operating system; become familiar with common icons used in a digital art program; create, save and open digital work; explore online safety concepts, such as personal information, trusted adults, safe passwords, content ownership and digital citizenship.	Digital Foundations 3 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - digital devices with a mouse or trackpad for children to use - access to word processing software, such as Microsoft Word or Google Docs Unit Summary: In Digital Foundations 3, children will learn concepts and skills to develop their understanding of: technology and input and output devices; device connections; operating system familiarity; recognising icons and symbols; mouse and keyboard skills and formatting text.	Digital Foundations 4 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - digital devices for children to use - access to word processing software, such as Microsoft Word or Google Docs Unit Summary: In Digital Foundations 4, children will learn concepts and skills to develop their understanding of: technology and digital devices; operating system familiarity; mouse and keyboard skills; understanding icons and symbols; creating digital artefacts; Internet safety and awareness and digital citizenship.	Digital Foundations 5 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - digital devices for children to use - access to word processing software, such as Microsoft Word or Google Docs Unit Summary: In Digital Foundations 5, children will learn concepts and skills to develop their understanding of: technology over time; computer systems and networks; organising files; formatting tools; keyboard shortcuts; hyperlinks and common icons. The steps in this unit can be covered flexibly in order to meet the specific needs of the children.	Digital Foundations 6 Duration: 6 Steps (approx. 6 - 7 hours) Tech Toolbox: - digital devices with function keys for children to use - access to word processing software, such as Microsoft Word or Google Docs Unit Summary: In Digital Foundations 6, children will learn concepts and skills to develop their understanding of: changes in technology; computer networks; file organisation and advanced search terms; keyboard shortcuts, including the function keys; hyperlinks and common icons.

Computer Systems and Networks					
KS1		LKS2		UKS2	
<u>Computer Systems and Networks 1</u> Duration: 4 Steps (approx. 4 - 6 hours) Tech Toolbox: ✦ digital devices for children to use Big Question: How does information technology help us? Unit Summary: In Computer Systems and Networks 1, children will: explore how information technology is used in different places and by different people; recognise how information technology helps us; understand how information technology has changed and developed over time; consider how information technology may develop in the future.	<u>Computer Systems and Networks 2</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices with access to the Internet for children to use Big Question: How can we search the Internet safely? Unit Summary: In Computer Systems and Networks 2, children will develop their understanding of: the parts of a computer; how to connect to the Internet; how we can be safe online; utilising search engines and how to navigate to a trusted web page on the Internet.	<u>Computer Systems and Networks 3</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices with access to the Internet for children to use Big Question: What is the difference between the Internet and the World Wide Web? Unit Summary: In Computer Systems and Networks 3, children will develop their understanding of: how devices are connected to each other; computer networks; the Internet; the World Wide Web and safe searching.	<u>Computer Systems and Networks 4</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices with access to the Internet for children to use ✦ access to Presentation software, such as Microsoft PowerPoint or Google Slides ✦ an online cloud storage system, such as Google Drive or Microsoft OneDrive Big Question: How does the Internet change our everyday lives? Unit Summary: In Computer Systems and Networks 4, children will explore how technology can help us work, collaborate and communicate effectively in our daily lives. The steps build on children's understanding of networks, communication technology and the impact that the invention of the Internet has had on communication and collaboration.	<u>Computer Systems and Networks 5</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices for children to use Big Question: How does a network function in order to help us? Unit Summary: In Computer Systems and Networks 5, children will develop their understanding of: the benefits of networks; the topology of networks; IP addresses; viruses & malware; hacking and looking at technologies that help us deal with online threats.	<u>Computer Systems and Networks 6</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices with access to the Internet for children to use Big Question: How can I be a critical user of the Internet? Unit Summary: In Computer Systems and Networks 6, children will learn about search engines and how they work. They will also learn how to assess search results and online content critically.

Digital Citizenship					
KS1		LKS2		UKS2	
Digital Citizenship 1	Digital Citizenship 2	Digital Citizenship 3	Digital Citizenship 4	Digital Citizenship 5	Digital Citizenship 6
Duration: 4 Steps (approx. 4 - 6 hours)	Duration: 4 Steps (approx. 4 - 6 hours)	Duration: 4 Steps (approx. 4 - 6 hours)	Duration: 5 Steps (approx. 5 - 7 hours)	Duration: 6 Steps (approx. 6 - 8 hours)	Duration: 5 Steps (approx. 5 - 7 hours)
Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.	Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.	Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.	Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.	Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.	Tech Toolbox: This is a mainly unplugged unit. Children will need digital devices within Step 3 and, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning.
Big Question: How can we use technology to learn and explore safely online?	Big Question: How do online behaviours impact our digital footprint and why does it matter?	Big Question: What are the risks and consequences of cyberbullying and how do we respond if we or someone we know experiences it?	Big Question: What are the potential risks and benefits of online gaming?	Big Question: How can our online actions impact our reputation both now and in the future?	Big Question: How can we distinguish between reliable and unreliable information online?
Unit Summary: In Digital Citizenship 1, children will: recognise different ways technology can be used to go online; recognise examples of personal information; identify how to keep their personal information safe; identify ways they can learn and explore safely online.	Unit Summary: In Digital Citizenship 2, children will: identify different ways to behave kindly and respectfully online; recognise bullying behaviour online and how to report it; learn what a digital footprint is and why it is important; learn how to reduce their digital footprint and make it more positive.	Unit Summary: In Digital Citizenship 3, children will: understand how to behave appropriately online; recognise how someone's feelings can be hurt by what is said or written online; understand what cyberbullying is and how to recognise it; know how to respond to cyberbullying in a safe and respectful way; understand how their online behaviour impacts their digital footprint.	Unit Summary: In Digital Citizenship 4, children will: understand which games are safe to play; understand how games use persuasion to keep people playing; know strategies to help limit how much time is spent playing games; understand what scams are and know how to avoid them while gaming online; understand what 'fake news' is and know strategies to notice it online; understand that not everyone online is who they say they are; know strategies for keeping personal information private; understand what respectful online gaming behaviour looks like.	Unit Summary: In Digital Citizenship 5, children will: understand the concept of an online reputation; understand how others may use online information to make judgements; understand the importance of building a positive online presence; recognise the lasting effect of words and actions in the digital environment; understand that not all online activities are suitable for them; recognise healthy and unhealthy online behaviours; understand how to collaborate effectively online.	Unit Summary: In Digital Citizenship 6, children will: understand how misinformation is shared online; understand the dangers of posting or sharing misinformation; learn how to critically evaluate the authenticity and trustworthiness of online content; know how to manage their digital footprint; identify and recognise online risks; understand how to protect themselves against cybersecurity threats.

Programming			
KS1		LKS2	UKS2
Programming 1 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning. Big Project: Create a body percussion algorithm. Unit Summary: In Programming 1, children will: learn what an algorithm is; recognise and follow the steps in simple algorithms; understand that algorithms can be modified and practise modifying existing algorithms; recognise that errors can occur in algorithms and learn how to debug them; understand how repetition works in algorithms; design and create their own simple algorithms; explore online safety concepts, such as online communication, online behaviours and digital citizenship.	Programming 2 Duration: 5 Steps (approx. 6 - 8 hours) Tech Toolbox: ♦ digital devices with access to the ScratchJr app Big Project: Create a playground game animation. Unit Summary: In Programming 2, children will develop their understanding of: the ScratchJr interface; programming a character to move and change its appearance; displaying written messages and sending messages between characters and repeating blocks or entire algorithms.	Programming 3 Duration: 5 Steps (approx. 6 - 8 hours) Tech Toolbox: ♦ digital devices with access to the <u>Scratch</u> online All Scratch projects referenced within this Digital Sparks unit can be found in the <u>Scratch Project Area</u>. Big Project: Create an underwater pollution game. Unit Summary: In Programming 3, children will develop the skills and knowledge required to create simple programs using Scratch. The five steps in this unit will take the children through various computer programming concepts, such as sequence, selection and repetition, as well as teaching them how to insert sprites and backdrops.	Programming 4 Duration: 5 Steps (approx. 6 - 8 hours) Tech Toolbox: ♦ digital devices with access to the <u>Scratch</u> online All Scratch projects referenced within this Digital Sparks unit can be found in the <u>Scratch Project Area</u>. Big Project: Create an interactive quiz using Scratch. Unit Summary: In Programming 4, children will develop an understanding of what programming is through hands-on projects and apply their knowledge in practical ways. The five steps in this unit will guide the children through various programming concepts, such as selection, repetition and variables, building up the necessary skills and knowledge to create an independent project.

Physical Computing		
KS1	LKS2	UKS2
Physical Computing 1 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ♦ access to Bee-Bots (one per pair or group) This unit has been designed for use with the Classic Bee-Bot. If you are using Blue-Bots or another programmable toy, you may need to adapt certain activities to suit your device's features and functionality. Big Project: Create a Bee-Bot journey. Unit Summary: In Physical Computing 1, children will: learn what a programmable toy is; understand how a Bee-Bot follows instructions; identify the features of a Bee-Bot; demonstrate how to use a Bee-Bot safely and responsibly; use the buttons on a Bee-Bot to control its movement; build and sequence simple algorithms; use repetition in algorithms; debug algorithms; design and create their own Bee-Bot journey.	Physical Computing 2 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ♦ BBC micro:bits (if available) ♦ digital devices with access to the Microsoft MakeCode editor ♦ headphones (optional) Big Project: Create a virtual band. Unit Summary: Physical Computing 2 is designed to give children a basic understanding of the BBC micro:bit and how it can be used to create simple programs that interact with the physical world. During the unit, children will: navigate the MakeCode interface; learn how to display and animate an image on a micro:bit; learn about the importance of sequencing when programming; use Music blocks within simple programs; debug algorithms; use simple Loops blocks in programs; learn when to use selection in programming; use simple Logic blocks in programs; flash programs to the micro:bit.	Physical Computing 3 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ♦ BBC micro:bits (if available) ♦ digital devices with access to the Microsoft MakeCode editor ♦ crocodile clips (if using BBC micro:bits) Big Project: Create a data logger. Unit Summary: Physical Computing 3 provides children with the skills and knowledge to design and program a BBC micro:bit using Microsoft MakeCode. They will gain an understanding of what physical computing is and access practical projects to put this knowledge to the test. The five steps in this unit will take the children through various computing programming concepts, such as selection, repetition and variables, as well as using the micro:bit's sensors and ability to connect to other objects like crocodile clips.

Creating Media						
KS1		LKS2		UKS2		
Creating Media 1 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: digital devices (one per child) with access to PaintZ Big Project: Creating a piece of digital art. Unit Summary: In Creating Media 1, children will: explore digital drawing tools; create different types of lines; create different types of shapes; use a range of colours, including tints and shades; experiment with colour and shape to create patterns; discuss the work of different artists; apply the taught skills to create a piece of digital art.	Creating Media 2 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: digital devices with access to a word processor, such as Microsoft Word or Google Docs Big Project: Use tools in a word processor to style and organise instructions. Unit Summary: In Creating Media 2, children will develop their understanding of: typing and pasting text into a word processor; using formatting tools to style text; using formatting tools to organise text; inserting images into a document.	Creating Media 3 Duration: 4 Steps (approx. 4 - 6 hours) Tech Toolbox: digital devices with access to a word processor, such as Microsoft Word or Google Docs Big Project: To create a presentation about a topic of your choice to share with the class. Unit Summary: In Creating Media 3, children will learn how to: insert and edit text; use keyboard shortcuts; format slides; insert and edit images; consider audience and purpose.	Creating Media 4 Duration: 4 Steps (approx. 4 - 6 hours) Tech Toolbox: digital devices with a built-in camera and stop-motion animation software Big Project: Creating a short animation. Unit Summary: In Creating Media 4, children will: gain an understanding of what animation is and the different ways in which animations can be created; understand how to create a smooth animation; navigate digital animation software; plan an animation using a storyboard; create and evaluate their own animations.	Creating Media 5 Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: - digital devices with access to Audacity (or an alternative digital audio workstation) - external microphones (optional) - headphones (optional) Big Project: To write, record and produce a podcast. Unit Summary: In Creating Media 5, children will learn: what podcasts are; how to record and edit high-quality audio using a digital audio workstation (DAW); the structure and content of podcast episodes and how advertising is used. Children also learn about copyright law and how to identify royalty-free content online.	Creating Media 6 Duration: 4 Steps (approx. 6 - 8 hours) Tech Toolbox: - presentation software, such as Microsoft PowerPoint or Google Slides - digital devices able to take photos, record videos and transfer files - video editing software - external microphones (optional) - artificial lighting, such as torches or lamps (optional) - tripods (optional) Big Project: To create an interactive leavers' presentation. Unit Summary: Creating Media 6 has been designed to provide children with the opportunity to apply a range of skills to create an interactive presentation. Children will also learn new skills including: cropping images to specific shapes; applying visual effects to images; creating hyperlinks within presentations; recording video; importing audio and video files and using video editing software.	Creating Media 6A Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: - digital devices with access to Tinkercad online - access to desktop publishing or presentation software, such as Microsoft PowerPoint or Google Slides Big Project: To design a 3D game character using Tinkercad. Unit Summary: In Creating Media 6A, children will: learn what 3D modelling is; learn that 3D designs can be printed to make physical three-dimensional objects; consider the benefits of 3D modelling in the real world and explore how this technology is used in the workplace. Through the use of Tinkercad, children will develop the practical computing skills of adding, moving, manipulating and combining objects to create 3D designs.

Data and Information		
KS1	LKS2	UKS2
<u>Data and Information 1</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning. Big Question: How can we use data to help us make decisions in our daily lives? Unit Summary: In Data and Information 1, children develop their understanding of: the features of data and information; how to interpret and spot patterns in data; how to collect and organise data; ways to represent data and effective ways to use data in our daily lives. Throughout these steps, the children will explore a variety of data representations and consider how they can make a difference in their own classroom by using data to support their findings.	<u>Data and Information 2</u> Duration: 5 Steps (approx. 5 - 7 hours) Tech Toolbox: ✦ digital devices with access to spreadsheet software, such as Microsoft Excel or Google Sheets Big Question: How can data be used to understand and improve our school or local community? Unit Summary: In Data and Information 2, children are taught the knowledge and skills required to develop an understanding of how data can be used to answer questions and make decisions. The five steps in this unit develop the children's understanding of: what data and information are; collecting and organising data; representing data; analysing and using data and handling data responsibly and ethically.	<u>Data and Information 3</u> Duration: 6 Steps (approx. 6 - 8 hours) Tech Toolbox: ✦ digital devices with access to spreadsheet software, such as Microsoft Excel or Google Sheets Big Question: How can we use data to solve problems and make better decisions in the real world? Unit Summary: In Data and Information 3, children are taught the knowledge and skills required for collecting, organising, representing, analysing and presenting data. The steps in this unit develop children's understanding of: data types and their uses; selecting appropriate data sources; collecting and organising data; filtering and sorting data; representing and analysing data and making data-informed decisions.

Artificial Intelligence		
KS1	LKS2	UKS2
<u>Artificial Intelligence 1</u> Duration: 4 Steps (approx. 4 - 5 hours) Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning. Big Question: Can machines learn and help us in our everyday lives? Unit Summary: Artificial Intelligence 1 introduces children to the concepts of machines and artificial intelligence (AI), encouraging them to explore how machines work, how humans learn and how AI technologies are trained. Throughout the unit, children will: learn what machines are and how they have changed over time; understand how humans learn by using their senses, practising tasks and making mistakes; discover what artificial intelligence is and how AI technologies are trained using data; compare humans and AI technologies to understand the differences and limitations of these technologies.	<u>Artificial Intelligence 2</u> Duration: 4 Steps (approx. 4 - 6 hours) Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning. Big Question: How do AI systems use data and is this always fair? Unit Summary: Artificial Intelligence 2 aims to provide children with the knowledge needed to understand what artificial intelligence (AI) is and how AI systems work while also exploring the ethical implications of AI systems in the real world. Throughout the unit, children will: understand what AI systems are; know examples of where AI systems are used; understand how AI models use pattern recognition to make decisions; know what generative AI models are and understand how they use data to generate new content; know what AI bias is and why it can happen; understand why AI bias is a problem; know where training data is sourced from; understand the importance of data privacy in relation to AI systems.	<u>Artificial Intelligence 3</u> Duration: 6 Steps (approx. 6 - 8 hours) Tech Toolbox: This is an unplugged unit and does not require the use of digital devices. However, if completing the Digital Evidence Portfolio electronically, a digital device will be needed to evidence the children's learning. Big Question: How can humans design and use AI systems to help solve problems, while making sure they are safe and fair? Unit Summary: In Artificial Intelligence 3, children will develop the ability to think critically about the role of AI systems in everyday life, including evaluating safety, ethical implications and usefulness. Building on this understanding, children will design their own AI system, ensuring it is safe, fair and beneficial. To conclude the unit, they will prepare and deliver a pitch to justify their design choices and demonstrate how their AI system meets key ethical and practical criteria.

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